

Translation

PATENT COOPERATION TREATY

PCT/EP2003/011544



PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2144/Dr.BrM/	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2003/011544	International filing date (day/month/year) 18 October 2003 (18.10.2003)	Priority date (day/month/year) 17 December 2002 (17.12.2002)
International Patent Classification (IPC) or national classification and IPC C09K 3/18		
Applicant RÖHM GMBH & CO. KG		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 1 sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 21 April 2004 (21.04.2004)	Date of completion of this report 28 December 2004 (28.12.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2003/011544

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ The international application as originally filed/furnished
- ☒ the description:
- pages _____ 1-34 _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- pages _____ 2-22 _____, as originally filed/furnished
- pages* _____, as amended (together with any statement) under Article 19
- pages* _____ 1 _____ received by this Authority on 05 November 2004 (05.11.2004)
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	<u>4, 5, 8, 12, 14, 21, 22</u>	YES
	Claims	<u>1-3, 6, 7, 9-11, 13, 15-20</u>	NO
Inventive step (IS)	Claims	<u></u>	YES
	Claims	<u>1-22</u>	NO
Industrial applicability (IA)	Claims	<u>1-22</u>	YES
	Claims	<u></u>	NO

2. Citations and explanations

Reference is made to the following document:

D1: EP-A-0 149 182

The present application does not meet the requirements of PCT Article 33(1) since the subject matter of claims 1 to 3, 6, 7, 10, 13, 15 and 20 is not novel within the meaning of PCT Article 33(2).

The subject matter of claim 1 of the application is not a method but a product which is defined by a production method.

Claims for products which characterize the products by a method for their production are to be considered novel and inventive only if the products as such meet the novelty and inventive step requirements.

In the letter of 5 November 2004, the applicant argues that the D1 coating could not be used in the flow coating method. Claim 1 of the current application concerns not a flow coating method but a plastics body.

D1 concerns a water-dispersing plastics material with a base body made of plastics and a water-repellent surface (page 1, lines 8 to 10). The surface consists of a hydrophilic inorganic coating, e.g. of metal oxides (page 4, paragraph 2; page 5, paragraph 3; and page 8, paragraph 3). The problem addressed by D1 is that of improving the adhesion of the hydrophilic coating (page 5, paragraph 2). The plastics material according to D1 is therefore provided with an adhesion-promoting intermediate layer made of an organic polymer material. The thickness of the oxide layer is 0.01 to 4 μm and the thickness of the adhesion-promoting intermediate layer is 0.01 to 20 μm (page 10, lines 8 and 9, and page 15, line 18).

According to example 1 of D1, a plate of polymethylmethacrylate is first coated with a mixed polymer as adhesion-promoting intermediate layer. After drying and curing, the layer thickness is 0.1 μm . An SiO_2 layer is then applied to the polymer layer using an aqueous silica sol. After drying and curing, the layer thickness is 0.15 μm . Thus the total thickness of the two coatings is 250 nm.

However, D1 does not state explicitly that the plastics body disclosed therein can be shaped. The product as per claim 1 of the application is also defined by a method feature:

"obtainable in that the intermediate layer (b) consisting of a mixture with a solvent having an evaporation number equal to or less than 20 is applied".

In example 1 of D1, the solvent for the polymer layer consists of isopropylalcohol and toluene, which, as is

known, have evaporation numbers of far less than 20 and less than 15. It is therefore to be expected that the product of example 1 according to D1 can also be shaped.

The plastics body as per claim 1 is produced by means of non-ionic and anionic flow control agents. These agents are not defined in claim 1, nor are the amounts used indicated. Only their weight ratios are given. The description (pages 27 to 29) indicates that they are organic compounds. It is therefore to be expected that the flow control agents evaporate on curing (see page 29) and are not present in the end product.

Therefore no difference can be discerned between the D1 product and the product as per claim 1.

Claims 1 to 3, 6, 7, 10, 13, 15 and 20 thus do not meet the requirements of PCT Article 33(2).

The dependent claims do not appear to contain any additional features which, combined with the features of any claim to which the claims refer back, meet the PCT novelty and inventive step requirements. The reasons for this are as follows:

1. The feature of claim 9 is known from D1 (see page 7, paragraph 2).
2. The feature of claim 11 is known from D1 (page 13, line 13, to page 14, line 9).
3. The features in claims 16 to 19 are results. The technical features necessary for attaining these results are not discernible in the claims. It is not clear to what extent the subject matter of these

claims differs from the subject matter of claim 1. Therefore claims 16 to 19 are also not considered novel.

4. The applicant has not demonstrated that the features in the other dependent claims have an unexpected effect.

Patent Claims

1. Formable plastics article which inhibits water droplet formation and comprises a plastics substrate, at least one inorganic coating (a) which inhibits water droplet formation, and one adhesion-promoting intermediate layer (b) located between the plastics substrate and the inorganic coating, obtainable by applying the intermediate layer (b) from a mixture with a solvent which has a volatility index smaller than or equal to 20, the total of the layer thicknesses of the inorganic coating (a) and of the intermediate layer (b) being at most 700 nm.
2. Plastics article according to Claim 1, characterized in that the solvent has a volatility index smaller than or equal to 15.
3. Plastics article according to Claim 1 or 2, characterized in that the mixture from which the intermediate layer is applied encompasses at least 70% by weight of a solvent which has a volatility index smaller than or equal to 20.
4. Plastics article according to any of the preceding claims, characterized in that the compound having a volatility index smaller than or equal to 20 gives a delta haze of at least 6% after 60 minutes of exposure time and 10 abrasion wheel rotations.
5. Plastics article according to any of the preceding claims, characterized in that the solvent is a carboxylic ester.
6. Plastics article according to any of the preceding claims, characterized in that the plastics substrate encompasses cycloolefin copolymers,

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